

# Combined Heat and Power Creates Resilient Energy Savings

Maryland's commercial, educational, healthcare and municipal organizations are realizing substantial savings with cogenerated heat and power systems.

Combined Heat and Power (CHP) are systems that combine technologies to maximize energy efficiency and reduce waste.

In traditional fossil fuel power plants, two-thirds of the energy used to generate electricity is wasted in the form of heat discharged to the atmosphere as well as through electricity transmission, achieving a combined efficiency of only 33 percent. By combining electricity generation and waste heat capture, CHP systems can operate at levels as high as 80 percent efficiency.

The Maryland Energy Administration (MEA) offers a wide variety of grants and tax credits that help residents close the savings gap on everything from home heating to electric vehicle charging equipment. Read about some of our featured grants here and visit us online at [www.Energy.Maryland.gov](http://www.Energy.Maryland.gov), to see our full list of programs for residents, businesses, nonprofits and local government agencies.



CHP in Maryland is an incredibly robust and effective program that delivers tremendous value; and serves as a brilliant example of successful public and private partnerships. To date, 44 businesses, nonprofits and local governments in Maryland have received CHP grants. Our local CHP projects represent over 63 megawatts of new, resilient energy generation within the state.

In 2017, Peninsula Regional Medical Center (PRMC) received a \$494,320 CHP grant from the State and Governor Larry Hogan attended the dedication. The new CHP system generates approximately 26 million kilowatt hours and provides the medical center with an estimated annual electric cost savings of \$415,086. This particular CHP project is yielding natural gas costs savings of around \$324,705. The total investment in this project was \$6 million and the hospital was able to take advantage of additional Pepco grants as well as fiscal support from corporate partners like the owner/developer Unison Energy, and construction support from Whiting-Turner, Rommel Electric, Joseph M. Zimmer Inc. and Becker Morgan. Altogether, this energy efficiency project will see a payback in just over seven years.

For a hospital like PRMC, this project allows them to be "off the grid" to some extent in the event of weather emergencies or power grid failures. As an added community benefit, PRMC is now using less power so the local utility can allocate more resources for residents on high-demand days of extreme heat or cold. PRMC's CHP system will offset 81 percent of the annual energy consumption and cut its carbon footprint drastically, with an annual CO2 reduction of more than 50 percent, using natural gas supplied by Chesapeake Utilities.

Maryland is in no short supply of CHP success stories. In October of 2018, Montgomery County celebrated the opening of their advanced microgrid which incorporates CHP plus solar and will improve the resiliency of government operations, reduce greenhouse gas emissions, upgrade existing aging electric infrastructure without capital expenditure and control energy costs. This project was partially funded for nearly \$500,000 dollars from State energy grants.

CHP has proven so popular, a new MICRO-CHP grant for 60 kilowatt or less sized projects was launched last December. For more information visit MEA online at [Energy.Maryland.gov](http://Energy.Maryland.gov).



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